

Method of Test For  
**BITUMEN CONTENT OF PAVING MIXTURES**  
DOTD DESIGNATION: TR 307-14

**Scope**

1. This method is designed to determine the percentage of bitumen mixtures by either centrifuge or hot solvent extractions.
2. Reference Documents
  - A. AASHTO T248 – Reducing Samples of Aggregate to Testing Size
  - B. AASHTO T164 – Quantitative Extraction of Asphalt Binder from Hot Mix Asphalt (HMA)
  - C. DOTD TR 3xx – Asphalt Volumetric Calculations
  - D. Worksheet – Asphaltic Concrete Plant Report, DOTD Form No. 03-22-3085

**Apparatus**

1. Use AASHTO T164, Section 6-APPARATUS and the appropriate method
  - A. AASHTO T164, Section 11, METHOD A-APPARATUS
  - B. AASHTO T164, Section 14, METHOD B-APPARATUS

**Health Precautions**

1. Proper precautions are to be taken whenever hot materials or equipment must be handled. Use container holder or thermal gloves while handling hot containers. Wear eye protection while stirring and weighing heated materials due to possible shattering of particles. Dry contaminated materials under a vent to prevent exposure to fumes.

2. Solvents are to be used under a hood or with effective surface exhaust system. Materials Safety Data Sheets (MSDS) shall be maintained at location where employees handle hazardous materials. Extreme caution is to be exercised when testing this material due to the high temperature involved. The solvents used are toxic and should only be used with proper ventilation. In no event is it used to clean hands. The solvents should be stored away from all testing equipment to prevent corrosion damage.

**Sample**

1. Use AASHTO T164, Section 9-SAMPLING with the following exception
  - A. Obtain samples in accordance with DOTD S203-??

**Procedure**

1. Use AASHTO T164, Section 10-MOISTURE CONTENT to determine moisture content
2. Use either of the following methods from AASHTO T164 for bitumen content
  - A. AASHTO T164, Section 12, METHOD A-PROCEDURE for centrifuge
  - B. AASHTO T164, Section 16, METHOD A-PROCEDURE for reflux extractor

**Report**

1. Report the percentage of bitumen to the nearest 0.1 percent.

### **Normal Test Reporting Time**

1. Normal test reporting time for reflux extraction is 12 hours.
2. Normal test reporting time for centrifuge is 2 hours.
3. Normal test reporting time for ash content by either method is 24 hours.

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